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DEGTINET . 100 IN

TCCAGCTCCTGGGCGAATCCCACATCTGTTTCAACTCTCCGCCGAGGGCGAGCAGGAGCGAGAGTGTGTCGAATCTGCG TTATTAGCGATGCCCCCTGGTTTGTGTGTTACGCACACACGTGCACACAAGGCTCTGGCTCGGCTTCCCTCCGTT AGTGAAGAGGGACGAGGGAAAAGAAAGCCACAGACGCCAACTTGAGACTCCCGCATCCCAAAAGAAGCACCAGATC CGCGTCCGGGCAGATTCACGTCGTTTCCAGCCAAGTGGACCTGATCGATGGCCCTCCTGAATTTATCACGATATTGAT

16 48	36 108	56 168	76	96	116 348	136
F	Q CAG	V GTG	T ACG	CIC	CCC	Y TAC
V GTG	E E E	D GAT	666	I ATC	S TCG	9 990
T ACT (R AGG	Q CAG	999	S	S	T ACT
A GCA	9	D GAC	Q CAG	S	C TGC	S AGC
S	K AAA	D GAC	E	CGC CGC	N AAC	N AAT
L CTG	L	T ACG	M ATG	S TCA	EGAG	CIC
L TTG (R	L	I ATC	CCC	N AAT	Y TAC
C	H	V GTG	CGC	C TGC	N AAC	V GTG
L	H	L	R	C TGC	TACC	A GCC
V GTG	S	I	T	M ATG	Y	F TTT
CIC	L	I ATC	K AAG	P	TACC	TACC
S AGC (F	N AAC	N AAC	T ACA	N AAC	R
P CCG .	A GCC	CCC	M ATG	TACC	H	S AGC
P CCC	S	CGC	V GTG	V GTG	N AAC	E GAG
990	S AGC	I ATC	Q CAG	TTC	H	H
MATG	G GGA	N AAC	M ATG	A GCC	V GTC	Q CAG
AAG	GGT	R AGG	S	NAAAC	Y TAC	A GCA
AAAG	L	R	GGT	I	K AAG	Q CAG
AGCAAAAAAAGAAG	L	D GAC	L	F	999	W TGG
AGC	S	R AGG	E	H	T ACC	S

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A, Glucksmann et al. U.S. Patent Appl. No: Not Yet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570

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156 468	176 528	196 588	216 648	236	256 768	276 828	296 888	316 948
GGC	R	I ATC	V GTC	S TCA	P	T ACC	TACG	A GCC
PCCC	C TGT	L	P	Y TAT	N AAC	F	E	T ACC
P	$_{ m CTG}$	D GAC	R AGG	Q CAA	P	E GAA	M ATG	$^{ m Y}$
V GTG	T ACG	T ACA	H	P	A GCG	M ATG	S	V GTA
Y TAC	Y TAC	CIC	P	A GCC	Y TAC	H CAC	D GAC	I ATC
S	N AAC	Y TAC	Y TAC	S TCA	N AAC	I ATC	D GAC	Y TAC
G GGC	Y TAT	D GAT	M ATG	D GAT	Y TAC	P	V GTG	T ACG
N AAC	F	K AAG	K AAG	EGAG	S AGC	K AAG	S	N AAC
Y TAC	R	S	K AAG	P	PCCG	M ATG	M ATG	D GAC
E	S	Y TAC	S	9	TACG	CCC	L	L
N AAT	N AAC	D GAC	TACG	H CAC	I ATC	999	TACC	E GAG
CTT	K AAA	S	R CGC	P	H	TACG	Q CAG	GGC
Y TAT	L	9	F	A GCC	Q CAG	Y TAC	$_{ m ITG}$	TACG
K AAG	L	H	F	A GCA	S	R	R	E GAG
GGG	GGA	K AAG	SAGC	H	A GCA	M ATG	K AAG	V GTT
F	V GTC	E	V GTG	SAGC	N AAC	I	R CGG	L
F	W TGG	K AAA	S AGC	IATC	P CCA	W	Q CAG	M ATG
A GCT	E	V GTG	DGAC	V GTC	F	H	CIC	N AAC
T ACA	K AAG	999	N AAT	M ATG	L	K AAA	M ATG	Y TAC
R CGG	W TGG	N AAC	TACC	L	R	D GAC	N AAC	I ATT

Fig. 1

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A. Glucksmann et al. U.S. Patent Appl. No.: Not Yet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570

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336 1008	356 1068	376 1128	396 1188	416 1248	436 1308	456 1368	476 1428	496 1488
E	N AAT	D GAC	V GTG	R AGA	$_{ m L}^{ m L}$	E	K AAG	Y TAC
Y TAT	L	L	PCCG	EGAG	F	$_{\rm TGT}^{\rm C}$	H	K AAG
P	C TGT	9 9	R	V GTG	N AAC	A GCG	$_{ m L}$	P CCC
MATG	9	A GCA	EGAG	$_{ m L}$	EGAG	T ACG	K AAG	V GTG
S	A GCC	I ATT	TACG	F	EGAG	Q CAG	L	CIC
K AAA	E	D GAC	D GAC	S	Q CAG	Y TAC	K AAG	N AAC
GGG	V GTG	L	L	D GAC	A GCC	E	999	S
K AAA	N AAC	IATC	L	R	D GAC	A GCT	TACG	L
$^{\rm V}_{\rm GTG}$	P	TACC	K AAG	W	V GTG	RGT	A GCC	A GCC
$_{ m L}$	9 9	PCCC	L	V GTC	K AAG	ي CAG	D GAC	R AGA
G GGC	R AGG	A GCC	I ATC	R AGG	D GAC	$_{\rm TGT}^{\rm C}$	EGAG	S AGC
F	V GTG	L	S	M ATG	N AAT	L	V GTG	9 99 0
Q CAG	Y	D GAC	K AAA	K AAG	D GAC	D GAC	$_{\rm IGT}^{\rm C}$	უ ე
GGC	F	I ATT	G GGG	K AAG	R AGA	K AAG	Q CAG	L
I ATC	P	N AAC	DGAC	K AAA	K AAG	V GTG	W	CGG
Н	V GTC	L	M ATG	L	H	R	K AAG	M ATG
Y TAC	R AGG	V GTC	D GAT	H	L CTA	Q CAG	Q CAG	CCC
GGT	I ATC	I ATC	A GCG	F	CIG	Y	GGA	99
H	D GAC	H	PCCT	R	K AAG	K AAG	L	K AAG
D GAC	F	P	I ATA	N AAT	999	PCCC	Q CAG	C TGC

Fig. 1

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A. Glucksmann et al. Patent Appl. No.: Not Yet Assigned 882062US Attorney Docket No. 10147-61U1 Cust # 570

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⊣	CIG	ĸ	CGC	Ω	GAT	О	GAT
Ø	AGC	ß	AGT	Ŋ	GGT	Ø	CAA
	CIC	ĸ	_	Н	_	Ω	GAC
	AAG	>	_	ტ	999	Ы	GAG
	TAC	X	-	Þ	_	Д	CCI
Ω	_	Ø	AGC	Ή	0	A	GCC
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1848	636 1908	656 1968	676 2028
GAC	E	R CGG	K AAG
CIG	I ATT	K AAG	L
GAC	E	K AAA	R
IGI	H	K AAG	GGC
CAG	D GAC	L	K AAA
GIC	I ATC	Н	H
ACA	H	G GGT	Q CAG
GAC	L	R CGA	T ACC
AAC	K AAG	V GTC	H
GAG	H	E	Y TAC
CTA	D GAC	R AGG	S AGC
ATC	K AAA	L	I ATC
TAC	W	N AAC	K AAA
DG I	A GCC	K AAG	H
CGG	Q CAG	I ATT	$_{\rm TGT}^{\rm C}$
CAT	CIG	K AAA	D GAC
ACA	S	N AAC	$_{\rm TGT}^{\rm C}$
GIG	K AAG	Q CAG	E GAA
AAA	Y TAC	L	E GAA
ATT	L	TACC	P

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors Maria A. Glucksmann et al. Yet Assigned

cket No. 10147-61U1 Cust # 570

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2148	736 2208	756 2268	776 2328

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696 2088	716 2148	736 2208	756 2268	776 2328	796 2388
W TGG	N AAC	Q CAG	TACG	TACT	N AAC
V GTG	Q CAG	W	N AAC	A GCA	V GTG
K AAG	L	H	N AAT	F	A GCA
DGAC	CGC PR	Q CAG	N AAC	E	N AAT
K AAG	K AAG	N AAC	A GCC	C TGT	M ATG
E	CIC	D GAC	S AGC	F	L
O CAA	L	H	TACC	CIC	Q CAG
L	K AAG	TACC	C	FTC	Y TAC
GGC	R	F	A GCC	N AAT	PCCC
K AAG	L	C TGC	$_{\mathrm{TGT}}$	H CAC	D GAC
R AGG	K AAA	T ACG	F	TACT	T ACA
F	K AAG	L	PCCT	E	N AAC
PCCT	K AAG	9	GGG	N AAT	L
H CAT	CGC	P	L	I ATC	D GAT
$^{ m L}$	K AAG	M ATG	TACA	TACC	F
S AGT	Q CAG	S AGC	W	R AGG	Y TAC
STCC	E	C	F	M ATG	E
9	R	T ACG	PCCT	C TGC	L
R AGA	$_{ m ITG}$	D GAC	A GCG	W TGG	FTC
H	L	N AAC	TACG	Y TAC	9 9

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PCCT

R AGA

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Fig. 1

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Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A, Glucksmann et al. U.S. Patent Appl. NO.: Not Yet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570

22437		!
1247	GAGCGAGAGTGTGGAGTGAGTGTGTGTGTCCCGGCGAGGGTGCGCGCTCGGC 10 20 30 40 50 60	09
22437		!
1247	GCCGGGAGCGCCGACCCGAGCACGCATCGGGAGGTCGACACCCCCGGGGACCCC 70 80 90 100 110 120	120
22437		1
1247	AGCICIGCGTICACIGCCCGTCCGGAGCIGGACTICGGGGCCGGGCC	GCG 180
22437		
1247	CCGGGGACAGGCCGGGTCGCGGGCCGCGGTCCCCCAGGCCGGAGAICTGCGAGT	AGT 240

Fig. 3.

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A. Glucksmann et al. U.S. Patent Appl. No: Not Vet Assigned Express Mail # EL665882062US Attomey Docket No. 10147-61UI Cust # 570

22437						
1247	GAAGAGGGACAAGGGAAACAAAGCCACAGGCAACTTGAGACTCCCGCATCCCA 250 260 270 280 290 300	AAGAAACAAA(260	gccacagacg 270	CAACTTGAGP 280	CTCCCGCATC	CCA 300
22437			ATGGGCC	10 ccccGAGCC1	10 20 30 ATGGGCCCCCCGAGCCTCGTGCTTG	30 TTG
1247	AAAGAAGCACCAGAATCAGCAAAAAAAAAAAAAAGAGGCCCCCGGAGCCTGGTGTTGCTTG 310 320 330 340 350 360	GCAAAAAAAG 320	:::::: AAGATGGGCC 330	::::::::::::::::::::::::::::::::::::::	ATGGCCCCCCGAGCCTCGTGCTTGCTTG 340	TTG 360
22437 1247	40 50 60 70 80 90 90 CTGTCCCCACTCTCTGCTCCCCCCCCCCCCCCCCCCCCC	50 crccrgcrg :::::::: crccrgcrg	60 GGTGGAAGCT :::::::: GGTGGAAGCT	70 ::::::::::::::::::::::::::::::::::::	80 IGTCGCACCAC ::::::::: IGTCGCACCAC	90 CGC :::
22437	100 110 120 130 140 150 CTGAAAGGCAGGTTTCAGAGGACGCAGCAACATCCGGCTGCTG ::::::::::::::::::::::::::::	110 GAGGGACCGC :::::::: GAGGGACCGC	120 AGGAACATCC ::::::: AGGAACATCC	130 3GCCCAACA 3GCCCCAACA 460	140 rcarccrggrg ::::::::: rcarccrggrg 470	150 CTG:::

rig. 3b

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	160	170	180	190	200	210
22437	ACGGACGACCAGGATGTGGAGCTGGGTTCCATGCAGGGAGTGAACAAGACCGGCGCATC	ATGTGGAGCTG	GGTTCCATGC ::::::::::::::::::::::::::::::::::::	AGGTGATGAP::::::::::::::::::::::::::::::	CAAGACCCGG	GGCATC
i	490	200	510	520	530	540
727427	220 230 240 250 260 270 arr.caa.cra.caa.ccaa.caa.caa.cc.cc	230	240 ATCAACGCCI	250 TCGTGACCAC	260 ACCCATGIGG	270 IGCCCC
12.47	A TICEA GOAGGO GOACHTOAN CAAGGOCTTOCTACACCATGTGCTGCCCC	::::::::::::::::::::::::::::::::::::::		TCGTGACCAC	ACCCATGTGC	:::::
•	550	560	570	580	290	009
	280	290	300	310	320	330
22437	TCACGCTCCTCCATCCTCACCGGCAAGTACGTCCACAACCACAACACCTACACAAAAT	TCCTCACCGGC	AAGTACGTCC	ACAACCACA?	CACCTACACC	AACAAT
						::
1247	TCACGCTCCTCCATCCTCACCGGCAAGTACGTCCACAACCACAACACCTACACCAACAAT	TCCTCACCGGC	MAGTACGIC	:ACAACCACA?	CACCTACACC	AACAAT
	610	620	630	640	650	099
	340	350	360	370	380	390
22437	GAGAACTGCTCCTCGCCCTCCTGGCAGGCACGAGGAGCCGCACCTTTGCCGTGTAC	CGCCCTCCTGC	SCAGGCACAGG	ACGAGAGCC	SCACCTTTGCC	GTGTAC
					::	::
1247	GAGAACTGCTCCTCGCCCTCCTGGCAGGCACGAGGAGGCCGCACCTTTGCCGTGTAC	CGCCCTCCTGC	SCAGGCACAGG	ACGAGAGCC	SCACCTTTGCC	GIGIAC
	040	089	069	700	710	720

Fig. 30

22437	400 410 420 430 440 450 CTCAATAGCACTGGGAAGAGTTTCTTGGGAAGTATCTTAATGAATACAACGGC :::::::::::::::::::::::::::::::
22437	460 470 480 490 500 510 TCCTACGTGCCACCCGGTGGAAGGAGTGGGTCGGACTCCTTAAAAACTCCCGGCTTTTAT ::::::::::::::::::::::::::::::::
22437	520 530 540 550 570 AACTACACGCTGTGTCGGAACGGGTGAAACAGAACCACGGCTCCGACTACTCCAAGGAT
22437	580 600 610 620 630 TACCTCACAGACCTCATCACCAAGAGGGGGGGGGGGTGTTCTCCGCACGTCCAAGAAGATG :::::::::::::::::::::::::::::

Fig. 3D

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22437	640 650 660 670 680 690 TACCCGCACAGGCCAGTCCTCATGGTCATCAGCCATGCAGGCCCCCACGGCCCTGAGGAT :::::::::::::::::::::::::::::::	
22437	720 730 740 750 750 750 750 750 740 750 750 750 750 750 750 750 750 750 75	
22437 1247	760 770 780 800 810 AACTACGCGCCCAACCGGACAAACACTCGATCATGCGCTACAGGGGCCCATGAAGCCC ::::::::::::::::::::::::::::::::	
22437 1247	820 830 840 850 860 870 ATCCACATGGAATTCACCAACATGCTCCAGGGAAGCGCTTGCAGACCTCATGTCGGTG :::::::::::::::::::::::::::::::	

Fig. 31

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	880	890	006	910	920	930	
22437	GACGACTCCATGGAGGGTTTACAACATGCTGGTTGAGACGGGCGAGCTGGACAACACG	AGACGATTTAC	AACATGCTGG1	TGAGACGGG	CGAGCTGGACA	AACACG	
12.47		.:::::::::::::::::::::::::::::::::::::	AACATGCTGG	TGAGACGGG	CGAGCTGGACZ	::::: AACACG	
+	1210	1220	1230	1240	1250	1260	
	940	950	096	970	086	066	
22437	TACATCGTATACACCGCCGACCACGGTTACCACATCGGCCAGTTTGGCCTGGTGAAAGGG	ccccaccac	GGTTACCACA'	rcgcccagtt	TGGCCTGGTG	AAAGGG	
12.47	m.c.m.r.m.m.r.m.m.r.m.c.garcarcarcarcarcarcarcarcarcarcarcarcarca		GGTTACCACA	::::::::::::::::::::::::::::::::::::::	TEGCCIEGIES	AAAGGG	
/+71	1270	1280	1290	1300	1310	1320	
	1000	1010	1020	1030	1040	1050	
22437	AAATCCATGCCATATGAGTTTGACATCAGGGTCCCGTTCTACGTGAGGGGCCCCCAACGTG	ATGAGITTGAC	ATCAGGGTCC	CGTTCTACGI	GAGGGGCCCC	AACGTG	
!						::	
1247	AAATCCATGCCATATGAGTTTGACATCAGGGTCCCGTTCTACGTGAGGGGCCCCCAACGTG	ATGAGTTTGAC	ATCAGGGTCC	CGTTCTACGI	GAGGGGCCC	AACGTG	
:	1330	1340	1350	1360	1370	1380	
	1060	1070	1080	1090	1100	1110	
22437	GAAGCCGGCTGTCTGAATCCCCACATCGTCCTCAACATTGACCTGGCCCCCACATCCTG	TGAATCCCCAC	ATCGICCICA	ACATTGACCI	GGCCCCCACC	ATCCIG	
: !			::	:::::::::::::::::::::::::::::::::::::::		::	
1247	GAAGCCGGCTGTCTGAATCCCCCACATCGTCCTCAACATTGACCTGGCCCCCCACCATCCTG	TGAATCCCCAC	ATCGICCICA	ACATTGACCI	regacacaeaca	ATCCTG	
	1300	1400	1410	1420	1430	1440	

Fig. 31

22437 1247	1120	1130 IGGACATACCT	1140 GCGGATATGGA:::::::::::::::::::::::::::::	1150 CGGGAAATCC ::::::::	1160 SATCCTCAAGCT:::::::::::::::::::::::::::::	1170 GCTG ::::
22437	1180 1190 1200 1210 1220 1230 1230 1230 1230 123	1190 1190 CGTGAATCGG :::::::::::::::::::::::::::::::::::	1200 ::TTCACTTGA! ::::::::::::::::::::::::::::::::::::	1210 AAAAGAAGATO :::::::::	1220 3AGGTCTGGCC :::::::3AGGGTCTGGCC	1230 56GAC ::::
22437	1240 1250 1260 1270 1280 1290 1290 1290 1290 1290 1290 1290 129	1250 AGAGAGGCAAG ::::::::: AGAGAGGCAAG	1260 scrgcracaca. :::::::::::::::::::::::::::::::::	1270 AGAGAGACAA' :::::::: AGAGAGACAA' 1600	1280 IGACAAGGTGG ::::::::: IGACAAGGTGG	1290 ACGCC:::: ACGCC
22437	1300 1310 1320 1330 1340 1350 CAGGAGAACTTTCTGCCCAAGTACCAGCGTGTGAAGGACCTGTGTCAGCGTGTGAGGACCTGTGTGAGGACCTGTGCTGAGGACCTGAGGACTTGTGCCTGAGGACTGTGTAGGACTGTGTAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGTAGAGGACTGAGACTGAGACTGAGACTGAGAGACTGAGACTGAGACTGAGAGACTGAGACTGAGACTGAGAGACTGAGAGACTGAGACTGAGAGACTGAGAGACTGAGACTGAGACTGAGACTGAGACTGACT	1310 TTCTGCCCAAG :::::::::	1320 strccagcgtg::::::::::::::::::::::::::::::::	1330 IGAAGGACCT ::::::::: IGAAGGACCT	1340 GTGTCAGCGTG:::::::::::::::::::::::::::::	1350 CTGAG :::::

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1680

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22437 1247	1360 TACCAGACGCGTG' ::::::::::::: TACCAGACGCGTG'	1370 TGAGCAGCTGGG :::::::::: TGAGCAGCTGGG	1380 3ACAGAAGTGC ::::::::::::::::::::::::::::::::::::	1390 SCAGTGTGTGG ::::::::: SCAGTGTGTGC	1360 1370 1380 1390 1400 1410 TACCAGACGCCGTGTGAGCACCTGGGACACGCGGGGGGGG
22437 1247	1420 AAGCTGAAGCTGCA :::::::::::: AAGCTGAAGCTGCA	1430 TAAGTGCAAGG(:::::::::::::::::::::::::::::::::	1440 sccccargcGG:::::::::::::::::::::::::::::::::::	1450 scrggcggcz ::::::::::::::::::::::::::::::::	1420 1430 1440 1450 1460 1470 AAGCTGAAGCTGCATAAGGGCCCCATGCGGCTGGGCGCAGCAGCACCTCTCC ::::::::::::::::::::::::::::::
22437	1480 AACCTCGTGCCAA :::::::::::::::: AACCTCGTGCCCAA	1490 GTACTACGGGC.:::::::::::::::::::::::::::::::::	1500 AGGCCAGCGA(:::::::::::::::::::::::::::::	1510 GGCCTGCACCT :::::::: GGCCTGCACCT	1480
22437	1540 TACAAGCTCAGCCT ::::::::::::: TACAAGCTCAGCCT	1550 GGCCGGACGCC :::::::::: GGCCGGACGCC	1560 GGAAAAACT: :::::::: GGAAAAACT 1890	1570 CTTCAAGAAG; ::::::: CTTCAAGAAG	1540 1550 1560 1570 1580 1590 1590 1590 1590 1590 1590 1590 1590 1590 1590 1590 1590 1590 1590 1890 1890 1910 1920

Fig. 3H

22437	1600 1610 1620 1630 1640 1650 TATGTCCGCAGGTCGCTCCAGTGCCCATCGAGGTGGACGGCTGTGACCAC :::::::::::::::::::::::::::::::::	1610 CTCCATCCGCT :::::::::: CTCCATCCGCT	1620 CAGIGGCCAT :::::::::: CAGIGGCCAT	1630 CGAGGTGGAC :::::::: CGAGGTGGAC 1960	1640 3GCAGGGTGT/ ::::::::: 3GCAGGGTGT/ 1970	1650 ACCAC ::::: ACCAC
22437	1640	1670 IGCCGCCCAGC ::::::::: IGCCGCCCAGC	1680 ::::::::::::::::::::::::::::::::::::	1690 CACCAAGCGG(::::::::	1700 CACTGGCCAGG ::::::::	1710 366cc :::::
	1990	2000	2010	2020	2030	2040
22437	1720 1730 1740 1750 1760 1770 CCTGAGGACCAAGATGGAGGCTTCCCGAC	1730 TGACAAGGATG	1740 GTGGGGACTT	1750 CAGTGGCACT	1760 GGAGGCCTTC	1770 CCGAC
1247	CCTGAGGACCAAGATGGAAGGATGGTGGGGACTTCAGTGGCGCACTGCAGGCCTTCCCAAC	::::::: TGACAAGGATG	GIGGGGACIT	CAGTGGCACT	GAGGCCTTC	CCGAC
	2050	2060	2070	2080	2090	2100

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Fig. 3

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A, Glucksmann et al. U.S. Pattent Appl. No.. Not Vet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570

	1780	1790	1800	1810	1820	1830
22437	TACTCAGCCGCCAACCCCATTAAAGTGACACATCGGTGCTACATCCTAGAGAACGACACA	CCCCATTAAAG	TGACACATCG	STGCTACATCC	TAGAGAACGA	CACA
1247	TAPLICACCOCCATARAAGTGACACATCGCTACATCCATACACGACGCCACA		TGACACATCG	STGCTACATCC	::::::::::::::::::::::::::::::::::::::	:::: CACA
:	2110	2120	2130	2140	2150	2160
22437	1840 1850 1860 1870 1880 1890 GICCAGIGIGAAAGACCACAAGCIGCAC	1850 GGACCTGTACA	1860 AGTCCCTGCA	1870 GGCCTGGAAAG	1880 BACCACAAGCT	1890 GCAC
1247	GTCCAGTGTGACCTGGACCTGTACAAGTCCCTGCAGGCCTGGAAAAGACCACAAGCTGCAC	GGACCTGTACA	AGTCCCTGCA	::::::::::::::::::::::::::::::::::::::	::::::::	GCAC
	2170	2180	2190	2200	2210	2220
	1900	1910	1920	1930	1940	1950
22437	ATCGACCACGAGATTGAAACCCTGCAGAACAAAATTAAGAACCTGAGGGAAGTCCGAGGT	TGAAACCCTGC	AGAACAAAAT	TAAGAACCTG?	GGGAAGTCCG	AGGT
						::
1247	ATCGACCACGAGATTGAAACCCTGCAGAACAAATTAAGAACCTGAGGGAAGTCCGAGGT	TGAAACCCTGC.	AGAACAAAAT	TAAGAACCTG?	GGGAAGTCCG	AGGT
	2230	2240	2250	2260	2270	2280
	1960	1970	1980	1990	2000	2010
22437	CACCTGAAGAAAAAGGGGCCAGAAGAATGTGACTGTCACAAAATCAGCTACCACACGAG	GCGGCCAGAAG	AATGTGACTG	TCACAAAATC?	GCTACCACAC	CCAG
						::
1247	CACCTGAAGAAAAAGCGGCCAGAAGAATGTGACTGTCACAAAATCAGCTACCACACCAG	GCGGCCAGAAG	AATGTGACTG	TCACAAAATCA	AGCTACCACAC	CCAG
	2290	2300	2310	2320	2330	2340

Fig. 3.

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A, Glucksmann et al. U.S. Patent Appl. No. You'vet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61UI Cust # 570

	2020	2030	2040	2050	2060	2070
22437	CACAAAGGCCGCCTCAAGCACAGAGGCTCCAGTCTGCATCCTTTCAGGAAGGGCCTGCAA	AAGCACAGAG	GCTCCAGTCT	SCATCCTTTCA	GGAAGGGCCT	GCAA
1247	CACAAAGGCGCGCACAGGCTCCAGTCTTCTCAGGAAGGGCCTGCAA	::::::::::::::::::::::::::::::::::::::	GCTCCAGTCT	SCATCCTTTCA	GGAAGGGCCT	GCAA
Ì	2350	2360	2370	2380	2390	2400
	2080 2100 2110 2120 2130 2130 2130 2130 213	2090	2100	2110	2120 AACTCCGCAA	2130 GCTG
7743/	GAGAAAGAACAACATGTGTGTGTGTGTGTGTGTGTGTGTG		:::::::::::::::::::::::::::::::::::::::			::
1247	GAGAAGGACAAGGTGTGGCTGTTGCGGGAGCAGAAGGAAG	STGGCTGTTGC 2420	GGGAGCAGAA 2430	GCGCAAGAAGF 2440	AACTCGCAA 2450	GCTG 2460
	2140	2150	2160	2170	2180	2190
22437	CICAAGCGCCIGCAGAACAACGACGCGIGCAGCAIGCCAGGCCICACGIGCIICACCCAC	SAACAACGACA	CGTGCAGCAT	GCCAGGCCTCA	ACGIGCITCAC	CCAC
						::
1247	CICAAGCGCCTGCAGAACAACGACGCGGCGAGGCCTCACGTGCTTCACCCAC 2470 2480 2490 2500 2510	SAACAACGACA 2480	CGTGCAGCAT	GCCAGGCCICA 2500	ACGTGCTTCAC 2510	CCAC 2520
	0000	2210	2220	2230	2240	2250
22437	GACAACCAGCACTGGCAGACGGCGCCTTTCTGGACACTGGGGGCCTTTCTGTGCCTGCACC	GCAGACGGCGC	CTTTCIGGAC	ACTGGGGCCT	PTCTGTGCCTG	CACC
				::		::
1247	GACAACCAGCACTGGCAGACGGCGCCTTTCTGGACACTGGGGCCTTTCTGTGCCTGCACA	GCAGACGGCGC	CTTTCTGGAC	ACTGGGGGCCT	TCTGTGCCTC	SCACC
	2530	2540	2550	2560	2570	2580

Fig. 5F

~	2260 2270 2280 2290 2300 2310 AGGGCCAACAATAACACGTACTGGTGCATGAGGACCATCAATGAGAGACTCACAATTTCCTC	2270 CACGTACTGGTC	2280 scargaggacc	2290 ATCAATGAGA:::::	2300 2310 CTCACAATTTCCTC	1 2 ::
	AGCGCCAACAATAACACGTACTGGTGCATGAGACCATCAATTTCCTC 2500 2610 2620 2630 2640	CACGTACTGGTC 2600	SCATGAGGACC 2610	atcaatgaga 2620	CTCACAATTTCCTC 2630 2640	TC 40
7	2320 2340 2350 2340 2350 2360 2370 TICIGIGAATITGCAACGCCTTCCTAGAGTACTITGATCTCAACACAGACCCCTACCAG	2330 AACTGGCTTCC1	2340 FAGAGTACTTT	2350 GATCTCAACA	2360 2370 cagaccctaccag	70 AG
	TICTGTGAATTTGCAACTGGCTTCCTAGAGTACTTTGATCTCAACAACAGACCCCTACCAG 2650 2600 2600 2700		:::::::: ragagracrrr 2670	:::::::: GATCTCAACA 2680	::::::::::::::::::::::::::::::::::::::	AG 00
L	2380 2400 2410 2420 2430 CTGATGAACAGCAGCTACAGCTCTCCTCAACCAGCTACAGCTCTCTAACAGTACAGCTA	2390 GAACACACTGG	2400 acagggargto	2410 CTCAACCAGO	2420 2430 TACACGTACAGCTC	30 IC
	CTGATGAATGCAGTGAACACAGGGATGTCCTCAACCAGCTACAGCTC CTGATGAATGCAGTGAACACTGGACAGGGATGTCCTCAACCAGCTACAGCTC 2710 2750 2760	::::::::::::::::::::::::::::::::::::::	.::::::: ACAGGGATGTC 2730	::::::::::::::::::::::::::::::::::::::	::::::::::::::::::::::::::::::::::::::	:: 1C 60
<u> </u>	2440 2450 2450 2470 2490 AGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	2450 CTGCAAGGGTT	2460 acaagcagtgi	2470 Aaccccgga	2480 2490 CTCGAAACATGGAC	90 AC
_	ATGGAGCTGAGGAGCTGCAAGGGTTACAAGCAGTGTAACCCCCCGGACTCGAAACATGGAC 2770 2770 2800 2810 2820	::::::::::::::::::::::::::::::::::::::	.::::::: ACAAGCAGTGJ 2790	:::::::: PAACCCCCGGA 2800	::::::::::::::::::::::::::::::::::::::	:: AC 20

Fig. 31

22437 1247 22437 1247	2500 2510 2550 2550 2550 2550 2550 2550	2510 .TGGAGGAAGCTA .:.::::::::::::::::::::::::::::::::::	2520 IIGAGCAATAC IIIGAGCAATAC 2850 2580 ATCACTGGGG IATCACTGGGG ATCACTGGGG ATCACTGGGGZ	2530 .AGGCAGTTTC	2540 .AGCGTCGAAAAGCGTCGAAA 2870AGCGTCGAAAAGCGTCGAAAAGCGTCGGAAAAGCGTGGGA	2550 GTGG CTGG 2880 2610 AGGT .:::
22437	TAA		 AAAACATAGA 2970	 AGGCATCACC1 2980	GACTGCACAG	 GCAA 3000
22437	TGAAAACCATGTGGGTGATTTCCAGCAGACCTGTGCTATTGGCCAGGAGGCCTGACAAA 3010 3020 3030 3040 3050 3060		 scagaccTGTC 3030	 SCTATTGGCC/	AGGAGGCCTGA	 GAAA 3060

Fig. 3N

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A. Glucksmann et al. U.S. Patent Appl. No.: Not Vet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570

22437						
1247	GCAAGCACCACTCTCAGTCAACATGACAGTTAACCAGCAGGAGAGAGA	ICAGICAACAIG 3080	BACAGAITCIG 3090	GAGGATAACC 3100	Jaccaggagca 3110	GAGA 3120
22437						
1247	TAACTICAGGAAGICCATITITGCCCCTGCTTTTGCTTTTGGATTATACCTCACCAGGTGC 3130 3140 3150 3160 3170 3180	CCATTTTTGCCC 3140	CTGCTTTTGC 3150	TTTGGATTA1 3160	IACCTCACCAG 3170	CTGC 3180
22437						
1247	ACAAAAIGCAITTITICGTAICAAAAGICACCACTAACCTICCCCCAGAAGCICACAAA 3190 3200 3210 3220 3230	ITCGTATCAAA 3200	AAGTCACCACT 3210	AACCCTCCC 3220	CAGAAGCTCA 3230	CAAA 3240
22437						
1247	GGAAAACGGAGGAGGAGGAGAGATTTCCTTGGAAATTTCTCCCAAGGGCGGAAAGT 3250 3260 3270 3280 3290 3300	scgagcgagag <i>i</i> 3260	AGATTTCCTTG 3270	GAAATTTCTC 3280	ccaaggggga 3290	AAGT 3300

Fig. 3N

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A Gluckaman et al. U.S. Patent Appl. No. 'Not Yet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570 22 / 30

GGTTTGTCACAAAGGAACTAAGAAGCAGGACAGAGGCAACGTGGAGAGGCTGAAAAC

CATTGGAATTTTTAAATCATAGGGGAAAAGCAGTCCTGTTCTAAATCCTCTTATTCTTTT

Fig. 30

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A, Glucksmann et al. U.S. Patent Appl. No.: Not Vet Assigned Express Mail # EL665882062US Attomey Docket No. 10147-61U1 Cust # 570

22437					1	1
1247	TAATCAACATGGGAACTTTTAGGGGGAACCTAATAAGAAATCCCAATTTTCAGGAGTGGTG 3550 3590 3600	aacttttagggg 3560	SAACCTAATAA 3570	GAAATCCCAA1 3580	TTTTCAGGAGI 3590	16616 3600
22437						1
1247	GTGTCAATAACGCTCTGTGGCCAGTGTAAAAAAATCCCTCGCAGTTGTGGACATTTC 3610 3620 3640 3650 3660	CTCTGTGGCCAG 3620	STGTAAAAGAA. 3630	AATCCCTCGC/ 3640	AGTTGTGGACA 3650	ATTTC 3660
22437						
1247	IGTICCIGICCAGATACCATTICICCIAGIATTICTITGITAIGICCCAGAACIGAIGIT 3670 3680 3690 3710 3720	ATACCATTTCTC 3680	CCTAGTATTTC 3690	TTTGTTATGTC 3700	CCCAGAACTGA 3710	ATGTT 3720
22437						
1247	TITITITAAGGIACIGAAAAGAAATGAAGTIGATGIATGICCCAAGIITITGAIGAAACI 3780 3780 3770 3780	actgaaaagaaa 3740	ATGAAGTTGATO 3750	GTATGTCCCAA 3760	AGTTTTGATGA 3770	AAACT 3780

Fig. 3P

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A Glucksmann et al. U.S. Patent Appl. No.: Not Yet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61UI Cust # 570

22437		1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		-
1247	GTATTIGTAAAAAATTTIGTAGTITTAAGTATTGTCATACAGTGTICAAAACCCCAGCC 3790 3810 3820 3830 3840	AATTTTGTAGTT 3800	TTAAGTATTG1 3810	CATACAGTG1 3820	TCAAAACCCC 3830	AGCC 3840
22437			 			
1247	AATGACCAGCAGTTGGTATGAAACCTTTGACATTTTGTAAAAGGCCATTTCTTTGTGG 3850 3860 3870 3880 3890 3900	GGTATGAAGAAC 3860	CTTTGACATI 3870	TTGTAAAAGG 3880	SCCATITCITI 3890	3900
22437						
1247	GGAGTTTTTTGGTGTGTTTTTTTAAAGTATTCAAGATACTACCAGTCAACATCTTT 3910 3920 3930 3940 3950 3960	FIGICIGITITI 3920	TAAAGTATTC 3930	ZAAGATACTAC 3940	CAGTCAACAT 3950	CTTT 3960
22437						
1247	TIGGAAGAAAAIGCCTIGGGITTAGAAGAITTICTIAAAAGGGGAGTAGAIGGTIGTAGA 3970 3980 3990 4000 4010 4020	CTTGGGTTTAGA 3980	AAGATTTTCTT 3990	AAAAGGGGAC 4000	TAGATGGTTG 4010	TAGA 4020

Fig. 30

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A Glucksmann et al. U.S. Patent Appl. No. No Vet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61UI Cust # 570

22437						
1247	TTGACTAAAAAGTCTACCATACTTCAAGGGACTACAGGTAAGTCTCATAGTATACCAGCT 4030 4040 4050 4060 4070 4080	TACCATACTTCP 4040	AAGGGACTAC? 4050	AGGTAAGTCTC 4060	ATAGTATACC 4070	AGCT 4080
22437		. !				!
1247	TIGGTACTICATTITITAAAAAGTATTAAICAATIGCAAAGAAAITCGCCTIGGCCAAC 4090 4100 4110 4120 4130 4140	TTTAAAAAAGTP 4100	ATTAATCAATT 4110	rgcaaagaaat 4120	TCGCCTTGGC 4130	CAAC 4140
22437						
1247	CCTTCTTGTGTATCAGGTAGTCTAACCTGATACAAGTAGTTGACAGATTTCAACTATCA	CAGGTAGTCTAA 4160	ACCTGATACAA 4170	AGTAGTTGACA 4180	GATTTCAACT 4190	ATCA 4200
22437						-
1247	ATCACCAGTCCAACCCATTTTAACAGATGACGGAGATAATCCCTAAAAGCACCC 4210 4220 4260 4260	CCATTTCTCATT 4220	TAACAGATGA 4230	ACGGAGATAAT 4240	CCCTAAAAGC 4250	ACCC 4260

Fig. 3F

Title: "22437, A Novel Human Sulfatase and Uses Therefor"
Inventors: Maria A. Glucksmann et al.
U.S. Patent Appl. No.: Not Vet Assigned
Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570

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0							
1247	ACATTTGTTTCAATGCCCCAAACAGGCCAAGCTCCCTAGCAACTCCCTAGTGGCGTTTTT 4270 4270 4310 4320	GCCCCAAACAG 4280	GCCAAGGCTC 4290	CCTAGCAACT 4300	CCCTAGIGG(3GTTTT 4320	
22437						1	
1247	TTAACTICTCAGAAACTGTTACCATTATTTGAAATAGGCTTCCTTAACCTCCTTTACCCT 4380 4330 4370 4380	ACTGTTACCAI 4340	TATTTGAAA1 4350	AGGCTTCCTT 4360	AACCICCIII 4370	ACCCT 4380	
22437							
1247	TAACCCAACAGGGATTT	TTT					

ig. 3S

Title: "22437, A Novel Human Sulfatase and Uses Therefor" Inventors: Maria A, Glucksmann et al. U.S. Patent Appl. No.: Not Yet Assigned Express Mail # EL665882062US Attorney Docket No. 10147-61U1 Cust # 570

22437	TRAUDER	10 20 30 40 -MGPPSLVLCLLSATVFSLLGGSSAFLSHHRLKGRFORDRRNIRPN	20 LLGGSSAFL	30 SHHRLKGRFQI	40 RDRRNIRPN	
1247	DSRIPKEAPDQQKKKMGPPSLVLCLLSATVFSLLGGSSAFLSHHRLKGRFQRDRRNIRPN 10 20 30 40 60	######################################	LLGGSSAFLS	SHHRLKGRFQI	::::::: RDRRNIRPN 60	
22437	50 60 70 80 90 100 IILVLTDDQDVELGSMQVMNKTRRIMEQGGTHFINAFVTTPMCCPSRSSILTGKYVHNHN	70 TRRIMEQGGTH1	80 FINAFVTTPN	90 ICCPSRSSIL	100 IGKYVHNHN	
1247	IILVLTDDQDVELGSMQVMNKTRRIMEQGGTHFINAFVTTPMCCPSRSSILTGKYVHNHN 70 80 90 100 110	TRRIMEQGGTHI 90	::::::: FINAFVTTPN 100	CCPSRSSIL	::::::: IGKYVHNHN 120	
22437	110 120 140 150 160 TYINNENCSSPSWQAQHESRTFAVYLNSTGYRTAFFGKYLNEYNGSYVPPGWKEWVGLLK	130 FAVYLNSTGYR7	140 TAFFGKYLNE	150 YNGSYVPPG	160 WKEWVGLLK	
1247	TYTNNENCSSPSWQAQHESRTFAVYLNSTGYRTAFFGKYLNEYNGSYVPFGWKEWVGLLK 130 140 150 150 160	::::::::: FAVYLNSTGYR1 150	:::::::: TAFFGKYLNE 160	::::::::::::::::::::::::::::::::::::::	::::::::::::::::::::::::::::::::::::::	
22437	170 180 190 200 210 220 NSRFYNYTLCRNGVKEKHGSDYSKDYLTDLITNDSVSFFRTSKKMYPHRPVLMVISHAAP :::::::::::::::::::::::::::::::::::	190 XSKDYLTDLITN ::::::::::::::::::::::::::::::::::::	200 NDSVSFFRTS ::::::::	210 KKKMYPHRPVJ ::::::::::::::::::::::::::::::::::::	220 LMVISHAAP ::::::::: LMVISHAAP 240	

Fig. 4A

22437	230 240 250 260 270 280 HGPEDSAPQYSRLFPNASQHITPSYNYAPNPDKHWIMRYTGPMKPIHMEFTNMLQRKRLQ ::::::::::::::::::::::::::::::::::::
22437	290 310 340 340 TLMSVDDSMETIYNMLVETGELDNTYIVYTADHGYHIGQFGLVKGKSMPYEFDIRVPFYV ::::::::::::::::::::::::::::::::::::
22437	350 360 400 RGPNVEAGCLNPHIVLNIDLAPTILDIAGLDIPADMDGKSILKLLFTERPVNRFHLKKKM ::::::::::::::::::::::::::::::::::
22437	410 420 430 440 450 460 RVWRDSFLVERGKLLHKRDNDKVDAQEENFLPKYQRVKDLCQRAEYQTACEQLGGKWQCV ::::::::::::::::::::::::::::::::::::

1100711207.1110311

Fig. 4B

	470	480	490	200	510	520	
22437	EDATGKLKLI	IKCKGPMRLG(EDATGKLKLHKCKGPMRLGGSRALSNLVPKYYGQGSEACTCDSGDYKLSLAGRRKKLFKK	YGQGSEAC1	CDSGDYKLS	LAGRRKKLFKK	
1247	EDATGKLKLF	HKCKGPMRLGC	EDATGKLKLHKCKGPMRLGGSRALSNLVPKYYGQGSEACTCDSGDYKLSIAGRRKKLFKK	YGQGSEACT	CDSGDYKLS	LAGREKKLFKK	
	490	200) 510	520	530	0 540	
22437	530 KYKASYVRSF	540 SIRSVAIEVI	530 540 550 560 570 580 KYKASYVRSKSIRSVALEVDGRVYHVGLGDAAQPRNLIKRHWPGAPEDQDDKDGGDFSGT	560 AQPRNLTKF	570 HWPGAPEDQ	580 DDKDGGDFSGT	
1247	KYKASYVRSR	SIRSVAIEVDO 560	KYKASYVRSRSIRSVAIEVDGRVYHVGLGDAAQPRNLTKRHWPGAPEDQDDKDGGDFSGT 550 540 600	AQPRNLTKRI	::::::::::::::::::::::::::::::::::::::	DDKDGGDFSGT	
	590	009	610	62.0	630	640	
22437	GGLPDYSAAN	IPIKVTHRCYI	GGLPDYSAANPIKVTHRCYILENDTVQCDLDLYKSLQAWKDHKLHIDHEIETLQNKIKNL	LYKSLQAWK	CDHKLHIDHE	IETLONKIKNL	
1247	GGLPDYSAAN	IPIKVTHRCYT	GGLPDYSAANPIKVTHRCYTLENDTVOCDLDLYKSLOAMKPHKIHTHPETETT.ANKTKNT	XWZCISWYI	 энстнтинс	THAL ONK TRAIL	
	610	029	(30	640	650	099 090	
	650	099	670	089	069	700	
22437	REVRGHLKKF	RPEECDCHKI	REVRCHLKKKRPEECDCHKISYHTQHKGRLKHRGSSLHPFRKGLQEKDKVWLLREQKRKK	HRGSSLHPF	RKGLQEKDK	VWLLREQKRKK	
1247	REVRGHLKKK	RPEECDCHKI	REVRGHLKKKRRPEECDCHKISYHTQHKGRLKHRGSSLHPFRKGLQEKDKVWLLREQKRKK	HRGSSLHPF	RKGLQEKDK	VWLLREQKRKK	
	019	089	069 (700	710	0 720	

Fig. 40

	0	MRTINE	RIINE	780
	760	ANNUTYWC		770
incier, coerea	750	PFCACTS	::::::	0:
	740	TAPFWTLG	TAPFWTLG	760
ladir	730	CHDNOHMO	OMHONGHJ	750
	7.	MPGLTCF	MPGLICE	740
	720	LQNNDTCS	LQNNDTCS	730
	710	KLRKLLKRLQNNDTCSMPGLTCFTHDNQHWQTAPFWTLGPFCACTSANNNTYWCMRTINE	KLRKLIKRLQNNDTCSMPGLTCFTHDNQHWQTAPFWTLGPFCACTSANNNTWCMRTINE	7

	770	780	790	800	810	820	
22437	THNFLFCEFA	IGFLEYFDLN	THNFLFCEFATGFLEYFDLNTDPYQLMNAVNTLDRDVLNQLHVQLMELRSCKGYKQCNPR	NTLDRDVL	NOLHVOLME	LRSCKGYK	QCNPR
1247	THNFLFCEFA	GFLEYFDLN	THNFLFCEFATGFLEYFDLNTDPYQLMNAVNTLDRDVLNQLHVQLMELRSCKGYKQCNPR	:::::: NTLDRDVL	 NQLHVQLME	 LRSCKGYK	SCNPR
	790	800	810		820	830	840
	830	840	850	860	870		
22437	TRNMDLGLKD	3GSYEQYRQF	TRNMDLGLKDGGSYEQYRQFQRRKWPEMKRPSSKSLGQLWEGWEG	PSSKSLGQ	LWEGWEG		
1247	CAN TO TOWN ALL	#OdvO4v25:	TRIMINITY OF THE PROPERTY OF T				
	850	860	870	8 PT-017-0-1	880 880		

Fig. 4L